

nucleotides from the 5' end of the adenovirus DNA, and wherein the total length of the vector DNA is less than about 35 KB."

Haj-Ahmad taught only a deletion of up to at most nucleotide 3827 from the 5' end of the adenovirus. The Office asserted that "a position of 3827 is 'about 4000'." Applicants respectfully disagree. The difference of 163 nucleotides provides a substantial region of homology with the endogenous adenoviral sequences in 293 cells for recombination to occur between infecting virus and endogenous virus. No consideration is provided in that reference of a bigger deletion to reduce the likelihood of recombination. As there is a functional difference between 3827 and 4000, Applicants respectfully submit that 3827 does not mean "about 4000."

However, Applicants have amended claim 1 to add the claim element, "wherein the total length of the vector DNA is less than about 35 KB." As Haj-Ahmad taught a vector with a length up to 2 KB greater than the length of the wild-type adenovirus, i.e., 37 KB (Haj-Ahmad, p. 267), that reference cannot have taught a vector that can be no greater than 35 KB. Support for that amendment can be found throughout the specification, including p. 13, line 33 (deletion of nucleotides 357 to 4020, or 3663 nucleotides), to p. 14, line 15 (insert of about 2.6 KB accepted by that vector to yield a total of about 1 KB less than the total size of the wild-type vector, i.e., about 35 KB).

Thus, as Haj-Ahmad did not teach every element of claim 1, it cannot have anticipated claim 1 or the claims depending from claim 1. Applicants thus request that the rejection under 35 U.S.C. 102(b) be withdrawn.

Rejections under 35 U.S.C. 103

Claims 6 and 9 have been rejected under 35 U.S.C. 103 as being unpatentable over Haj-Ahmad (*supra*) in view of pp. 342-343 of From Genes to Clones (Winnacker, 1987, VCH Publishers, NY). While not acquiescing to the Office's position, and in the interest of further expediting prosecution, Applicants have amended claim 6 to recite, "The recombinant adenovirus expression

vector of claim 1 or 3 wherein (a) the protein IX polyadenylation signal in the adenovirus DNA has further been deleted, and wherein (b) the vector further comprises a foreign DNA molecule encoding a polyadenylation signal." As neither reference taught nor suggested adenovirus DNA deleted from about 360 nucleotides to about 4000 nucleotides from the 5' end of the adenovirus DNA, and wherein the total length of the vector DNA is less than about 35 KB, or the deletion of a protein IX polyadenylation signal, the amendment to claim 6 obviates this rejection of claim 6 and its dependent claim 9. Applicants thus request that the rejection of these claims under 35 U.S.C. 103 be withdrawn.

Claims 11 and 15 have been rejected under 35 U.S.C. 103 as unpatentable over Haj-Ahmad (*supra*) in view of Bacchetti and Graham (Int. J. Oncology 3:781-188 (1993)). As discussed above, Haj-Ahmad neither taught nor suggested a vector having the properties of amended claim 1. As the Bacchetti and Graham reference neither taught nor suggested such a vector, but rather, disclosed only substitutions in the E1 region (Bacchetti and Graham, p. 782) in a vector of unspecified length, neither reference alone or in combination can have made obvious claim 11 and 15, both of which incorporate all the elements of claim 1.

Objection under 37 C.F.R. 1.75(c)

Claim 6 has been objected to as being in improper dependent form because a multiple dependent claim can refer to other claims in the alternative only and cannot depend from any other multiple dependent claim. As claims 4 and 5 have been canceled, claim 6 has been amended to refer to claim 1 or 3 in the alternative, thereby overcoming this objection.

CONCLUSION

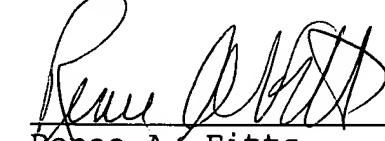
In view of the foregoing, Applicants believe all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

RICHARD J. GREGORY et al.
Application No.: 08/328,673
Page 5

PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (415) 326-2400.

Respectfully submitted,



Renee A. Fitts
Reg. No. 35,136

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
(415) 326-2400
Fax (415) 326-2422
RAF:rjs
F:\DATA\PA\AMD\RAF\78471